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# Strategic thinking skills of accountants during adoption of IFRS and the new Turkish Commercial Code: A survey from Turkey

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## Abstract

In today's complex and rapidly changing business environment, members of all professions should possess and use strategic thinking skills, which reported in the literature as a crucial aspect of success. Nowadays, professional accountants are confronted with changes take place in standards and legislations. This survey, Strategic Thinking Questionnaire developed by Pisapia et al., aims to identify the use of strategic thinking skills (reframing, reflecting, and systems thinking) of Certified Public Accountants (CPAs) and CPA trainees during the adoption of International Financial Reporting Standards and the new Turkish Commercial Code. According to our results, the position of participants (CPA or CPA trainee) is positively related with reflecting and systems thinking while it does not produce any significant relationship with reframing. Moreover, gender, age, work experience, and education variables do not have any significant relationships with each of the three strategic thinking skills.

**Keywords:** Strategic thinking skills; IFRS; Turkish Commercial Code; Accounting profession.

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## 1. Introduction

In every country managers and employees have to deal with the changes and forces in business life that are results of global and local necessities. In order to deal with changes and new forces, organizations or managers must cultivate a strategic point of view. In their well known study Hamel and Prahalad (1994) explain the point of view as follows: *"Developing a point of view about the future should be an ongoing project sustained by continuous debate within a company, not a massive onetime effort. Unfortunately, most companies consider the need to regenerate their strategies and reinvent their industries only when restructuring and re-engineering fail to halt the process of corporate decline. To get ahead of the industry change curve, to have the chance of conducting a bloodless revolution, top managers must recognize that the real focus for their companies is the opportunity to compete for the future"*.

Nowadays in Turkey, business world and especially accounting environment have been facing with great changes because of adoption of International Financial Reporting Standards (IFRS), International

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Standards on Auditing (ISA), and the new Turkish Commercial Code. It has been agreed that the new Code redefines commercial law in terms of transparency, auditing, and reliability. Requirements of preparing financial statements in accordance with IFRS and ISA bring many issues like internal controlling, independent auditing, and risk management that bring many obligations for managers especially for accounting managers and professionals.

Adoption of IFRS and the new Turkish Commercial Code requires new policies, strategies, and applications in business life. Managers who are obligated to maximize firm's value for shareholders are under pressure in adopting IFRS and the new Code while at the same time they find themselves in dealing with global financial crises and fierce competition. To compete for the future, managers must be able to think strategically. The use of strategic thinking skills of managers determines firms' efficiency and success. In order to make right choices and maximize shareholder value, managers must think strategically within that chaotic situation. Strategic thinking skills enable managers to evaluate, compare, analyze, critique, and synthesize information. Strategic thinking could be defined as follows: *"Strategic thinking is a process in which a person is perceiving, reflecting, feeling, realizing and acknowledging signs that impact the future of the firm, giving them meaning and acting upon them by shaping the impressions, perspective and behavior accordingly"* (Jelenc and Swiercz, 2011).

Strategic thinking skills are related to firms' performance and efficiency. Developing successful strategies depends on strategic thinking skills. It is accepted that managers having high strategic thinking skills are more efficient than those who have low strategic thinking skills (Pisapia, Reyes-Guerra, and Coukos-Semmel, 2005; Pisapia, Pang, Hee, Lin, and Morris, 2009; Pisapia, Ellington, Toussaint, and Morris, 2011; Goldman and Casey, 2010). According to Pisapia, Reyes-Guerra, and Coukos-Semmel (2005), strategic thinking skills consist of three components; reframing, reflecting, and systems thinking, and these three skills can be measured thorough the Strategic Thinking Questionnaire (STQ) developed by them. In this study, we used STQ to detect strategic thinking skills of public accountants.

In this context, the study states the adoption of IFRS and the new Turkish Commercial Code, describes the strategic thinking and its components and reviews the literature at the next section. Hypotheses, research methodology, and results of the study will take place at the third section. Discussions and recommendations will be provided at the last section.

## **2. Accountants' Adoption Process, Strategic Thinking Skills, and Related Literature**

### *2.1. International Financial Reporting Standards and International Standards on Auditing*

IFRS have seriously been discussed and adopted by many countries and authorities after the Enron Case. International standard setters and regulators of those countries have been forcing the implementation of IFRS in practice (Pekdemir and Turel, 2007). Turkey is also in the process of adopting IFRS since 2005, and 2013 is the date that the standards will be effective for both public and non-public firms.

IFRS have been translated to Turkish as Turkish Accounting Standards (TAS) from International Accounting Standards (IAS) and as Turkish Financial Reporting Standards (TFRS) from IFRS since 2005. Turkish Accounting Standards Board (TASB) has already adopted and published 41 TAS and 13 TFRS. *"The TAS should be put into practice as of 1 January 2013; within this framework initially the opening balance sheet for the year 2013 should be prepared in compliance with TAS. The TAS consist of the TAS/ TFRS and its interpretations, and TFRS for Small and Medium Sized Enterprises (SMEs). In the New Turkish Commercial Code, it is stated that TFRS for SMEs can be applicable for SMEs. TASB can*

*introduce specific standards for enterprises and sectors of different scales, in cases when different regulations are permitted by the IFRS. The institutions and boards established specifically by the law to regulate and to supervise specific areas can formulate regulations limited to details for the standards that will be valid for their own areas, provided they conform to the TAS and provided that they receive approval from the TASB”\**.

In auditing area just after the Enron scandal the authorities designed a set of new rules. Sarbanes-Oxley Act, a 2002 United States federal law, was legislated to help preventing auditing scandals. Kardeş Selimoğlu and Uzay (2011) state that the act discusses two important issues; establishing public oversight board and prevent auditors’ advisory services to their clients. Additionally the act requires Chief Executive Officers (CEOs) to confirm interim financial statements’ reliability.

Major international auditing actor is the Public Oversight Board. Basically the Board *“is the cornerstone of the self-regulatory system that oversees the accounting profession in the United States. The POB exists to help assure regulators, investors and the public at large that audited financial statements of public corporations can be relied upon to provide an accurate picture of the financial health of those companies”\*\**. Turkish auditing authorities have adopted and developed a public oversight institution whose legal process has been completed. In November 2011, “Public Oversight, Accounting and Auditing Standards Authority” replaced TASB. The new regulatory body has a wide range of duties such as adoption of accounting and auditing standards. ISA, another set of rules that bring many responsibilities to accountants in Turkey, have been adopted as Turkish Auditing Standards and the new established board is responsible of quality assurance and implementation of those standards.

The standards, IFRS and ISA result new applications, policies, and methods. In another words, accountants in Turkey are being forced to apply the new changes and methods in their routine accounting practices. During that adoption process, accountants must be fully ready to be efficient. Strategic thinking skills of accountants may help them during this process.

## 2.2. The New Turkish Commercial Code

Adoption of IFRS has not been the only challenge for accountants. The government’s new legislation, the new Turkish Commercial Code is going to be effective in July 2012 contains a new set of rules. As IFRS, the new Turkish Commercial Code brings many requirements and obligations to Turkish firms, even if the regulations concerning accounting profession would not be valid until January 1, 2013. *“The New Law actually redefines the rules of commercial life with its modern approach. The law provides regulations for commercial life that will ensure a desired level of transparency, auditability and reliability. Its philosophy is that even though corporate governance is a set of rules introduced for public companies, because it equals investor and sustainable development, it should apply to all enterprises. Preparation of financial statements in accordance with IFRS and independent auditing in line with IAS will necessitate adoption of many international standards in matters such as internal controls, internal audit and risk management, all of which are requirements for corporate governance under Turkish standards and which make change obligatory. This approach means a significant process of adaptation and will mean a great deal of preparation for many Turkish companies”\*\**.

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\* <http://www.pwc.com/tr/en/publications/turkish-commercial-code.jhtml>

\*\* <http://www.publicoversightboard.org/about.htm>

In addition to the requirements of adoption to the accounting and auditing standards, accountants must be prepared for the new law as it contains new articles related to accounting and auditing. Strategic thinking capabilities of the accountants will be one of the most important skills during that adoption as well.

Several institutions have played key roles during adoption of IFRS and the new Code to prepare accountants in Turkey, like Public Oversight Accounting and Auditing Standards Authority and the Union of Chambers of Certified Public Accountants and Sworn-in Certified Public Accountants of Turkey. The preparations mostly include training and courses about the application of new financial reporting standards and the new Code. Certified Public Accountants and other accounting professionals like accounting managers of public and private firms are being informed and trained for the new adoptions. No matter how these training programs and courses are being conducted, accounting managers' strategic thinking skills will be the key factor of dealing with the complexity of the situation.

### 2.3. Strategic Thinking Skills, Its Components, and Accountants' Competencies

In order to successfully deal with complex environment, managers must think strategically. Mintzberg (1994) describes such a manager as *"an expert who has been defined as someone who avoids all the many pitfalls on his or her way to the grand fallacy"*.

Even though strategic thinking is used interchangeably with other terms starting with strategic, like strategic planning and strategic management, there are distinct differences among their meanings. Heracleous (1998) states that strategic thinking stimulates strategic planning. Strategic thinking is a synthetic, divergent, and creative process while strategic planning is an analytic, convergent, and conventional process. *"The purpose of strategic thinking is to discover novel, imaginative strategies which can re-write the rules of the competitive game; and to envision potential futures significantly different from the present. The purpose of strategic planning is to operationalise the strategies developed through strategic thinking, and to support the strategic thinking process"* (Heracleous, 1998). Bonn (2001) also agrees with this view and states that strategic planning process takes place after strategic thinking.

The elements or components of strategic thinking skills are defined differently by several researchers in the literature. Liedtka (1998) states that strategic thinking is comprised of five elements; a systems perspective, intent-focused, intelligent opportunism, thinking in time, and hypothesis-driven. Bonn (2001) argues that strategic thinking at the individual level has three main elements; a holistic understanding of the organization and its environment, creativity, and a vision for the future of the organization.

Strategic thinking capacity consists of three major skills; systems thinking, reframing, and reflection. *Systems thinking refers to the leader's ability to see systems holistically by understanding the properties, forces, patterns and interrelationships that shape the behavior of the system, which hence provides options for action. Reflecting refers to the leader's ability to weave logical and rational thinking, through the use of perceptions, experience and information, to make judgments on what has happened, and creation of intuitive principles that guide future actions. Reframing refers to the leader's ability to switch attention across multiple perspectives, frames, mental models, and paradigms to generate new insights and options for actions* (Pisapia, Reyes-Guerra, and Coukos-Semmel, 2005; Pisapia, Ellington, Toussaint, and Morris, 2011). Pisapia developed Strategic Thinking Questionnaire (STQ) to determine the usage level of strategic thinking skills based on three components. In this study, we used STQ survey to evaluate strategic thinking skills of our selected samples.

Many researchers have attempted to measure the relationship between strategic thinking skills and manager's success. It can be accepted that strategic thinking capability is the key component of successful managers. Strategic thinking capability is related to efficiency as well. It is argued that efficient managers have higher strategic thinking skills compared to inefficient managers. Therefore strategic thinking capability of managers is the key determinant of efficient entity.

Although strategic thinking is mostly related with the top management level in the literature, many researchers also argue that it is not the sole responsibility of senior managers. Middle and lower level managers have to use strategic thinking skills to create new ideas and to implement them. Additionally, employees who have more relation with customers and other stakeholders should have those skills to manage their daily business (Zahra and Nambisan, In Press; Hamel, 1996). Strategic thinking skills are not only important for business world, they are very crucial for individual success as well. Pisapia, Reyes-Guerra, and Coukos-Semmel (2005) suggest that academic success is also related with the thinking capacities of students. Individuals who possess strategic thinking skills can make more sense of the complexities facing them and cope with the complexities more efficiently. Wheatley (2006) also states that, along with top management, *"everyone needs to be able to interpret complex information and create their own realities"* (Goldman and Casey, 2010).

As all employees, managers, and individuals in general, strategic thinking skills are also an important aspect of success for accounting profession. A study by American Institute of Certified Public Accountants (AICPA, 1998) reports that CPAs need to have skills such as communication, leadership, strategic thinking, and client focus to remain competitive in business environment in addition to traditional accounting and auditing knowledge (Bui and Porter, 2010). Institute of Chartered Accountants in Australia (ICAA, 1998) describes the skills for future accountants as strategic skills, accounting and finance skills, people skills, and information technology skills. Institute of Chartered Accountants in England and Wales (ICAEW, 1996) states that, along with the classical tasks accountants should perform, they have to combine technical skills with strategic vision and strategic planning (Howieson, 2003).

Bui and Porter (2010) summarized the desired competencies that professional accountants should have. According to them, accountants should possess technical accounting expertise, a broad business perspective and general business skills, and personal competencies. Personal competencies include strategic thinking and management, communication skills, leadership skills, interpersonal skills, and the ability to adopt to rapidly changing business environment.

Demir and Süer Öztekin (2006) researched the effects of Turkey's accession process to European Union on accounting education. According to their results, almost all academicians participated in survey believed that future accountants should be provided not only with courses to gain them basic accounting knowledge but also with courses and teaching techniques to gain them strategic thinking skills.

### 3. Methodology

#### 3.1. Research Goal

We have attempted in this study to measure strategic thinking skills; systems thinking, reflecting and reframing skills of public accountants and accounting trainees during the adoption of IFRS and the new Commercial Code. Our hypotheses focus on if accountants' use of strategic thinking skills differs with position, gender, age, work experience, and education level, etc.

*H1: The usage of strategic thinking skills does not differ by position (accounting trainee or certified public accountant).*

*H2: The usage of strategic thinking skills does not differ by gender, age, work experience, and education level.*

### 3.2. Sample and Data Collection

To test our hypotheses a survey using “Strategic Thinking Questionnaire” (STQ), developed and enhanced by Pisapia, Reyes-Guerra, and Coukos-Semmel (2005), has been used. STQ provides a measure for how often participants use their strategic thinking skills – reframing, reflecting, and systems thinking, which seems as an important component for success in personal carriers. Participants are asked how often they use specific skills when they encounter with a problem, dilemma, or opportunity in their work environment. In our study, like Penney (2010), STQ<sub>v6</sub> was used. This version comprised 53 items stating specific conditions and the items are cast on a five-point Likert scale. Higher numbers state the greater use of these skills, where 1=rarely or almost never, 2=once in a while, 3=sometimes, 4=often, and 5=frequently or almost always. People who have average or above average scores are thought to have those skills and be strategic thinkers. *The higher the scores, the more positive the prediction for effective functioning in meeting the environmental demands and pressures. On the other hand, an inability to be an effective thinker is suggested by low scores* (Pang and Pisapia, In Press).

The questionnaire was translated into Turkish in three stages. At the first stage, the English version was translated into Turkish. At the second stage, previously translated Turkish version was re-translated into English by another academician. Finally, original English version and the version re-translated from Turkish to English were compared whether they have intended meanings at the last stage.

The survey of this study has been conducted on public accountants and accounting trainees in a selected region (Manisa) in Turkey. There are 579 certified public accountants and 93 certified public accountant trainees registered in Chambers of Certified Public Accountants (CCPA) in Manisa. We have conducted the survey by reaching the members’ of CCPA via e-mail addresses, telephones, and during their education sessions. Total responds to the survey was 273.

There were some control questions in the questionnaire to increase the reliability of survey. Some control questions were asked in two different forms, as a positive and a negative statement. Other control questions were asked at the different points of the questionnaire as exact statements or changed in some degree with the same meaning. Before analyzing the results, cases that seemed to be unreliable by evaluating the control questions were eliminated. After this evaluation, 29 cases out of 273 were eliminated and 244 cases left for the analysis.

### 3.3. Analyses and Results

Data collected from the survey, 154 cases from CPAs and 90 from CPA trainees, have been analyzed through the SPSS statistical packet program and the proposed relations have been tested. Table 1 represents the rank order of skill usage and Cronbach’s alphas. To test the internal reliability of our survey, Cronbach’s alphas were estimated, ranged between 0.76 and 0.87 for the subscales and 0.93 for the total scale. Other studies have reported similar internal reliabilities (Pisapia, Reyes-Guerra, and Coukos-Semmel, 2005; Pisapia, Pang, Hee, Lin, and Morris, 2009; Pang and Pisapia, In Press). The rank order skill usage is systems thinking (3.82), reflecting (3.81), and reframing (3.72). Based on the mean scores, systems thinking and reflecting skills are the most frequently used skills.



Table 1. Means, standard deviations and reliability coefficients of the subscales of strategic thinking questionnaire

DIMENSIONS	Mean	Std. Dev.	Number	Alpha	#items
Reframing	3.71	0.502	244	0.76	10
Reflecting	3.81	0.458	244	0.84	17
Systems Thinking	3.82	0.485	244	0.87	17
<b>STRATEGIC THINKING</b>	<b>3.79</b>	<b>0.443</b>	<b>244</b>	<b>0.93</b>	<b>44</b>

Table 2 presents the demographic data for the participants in the study. 28.69% of all participants are female while 71.31% are male. Both subsamples have higher percentage of male participants. Naturally, the CPA trainees sample is younger than the CPA sample. 75.56% of all CPA trainees fall into the 26-35 age grouping and 20.00% of remaining CPA trainees are in the 20-25 age grouping. On the other hand, 59.74% of the CPA sample falls into the 36-45 and 46-55 age groupings. CPA trainees have less work experience, almost half of them (48.89%) have only worked 1 to 5 years while more than 70.00% of CPAs have worked at least 10 years and higher. Most of the participants (81.56%) in total and in each subsample have a bachelor's degree.

Table 2. The demographics of participants in the study

		CPA		CPA TRAINEE		TOTAL	
		Number	%	Number	%	Number	%
<b>Gender</b>	Female	35	22.73	35	38.89	70	28.69
	Male	119	77.27	55	61.11	174	71.31
<b>Age</b>	20-25	1	0.65	18	20.00	19	7.79
	26-35	49	31.82	68	75.56	117	47.95
	36-45	61	39.61	3	3.33	64	26.23
	46-55	31	20.13	1	1.11	32	13.11
	> = 56	12	7.79	0	0.00	12	4.92
<b>Experience</b>	1-5	22	14.29	44	48.89	66	27.05
	5-10	23	14.94	27	30.00	50	20.49
	11-15	47	30.52	13	14.44	60	24.59
	16-20	17	11.04	5	5.56	22	9.02
	21-25	41	26.62	1	1.11	42	17.21
	> = 26	4	2.60	0	0.00	4	1.64
<b>Education</b>	High school	19	12.34	5	5.56	24	9.84
	Associate degree	7	4.55	4	4.44	11	4.51
	Bachelor's degree	118	76.62	81	90.00	199	81.56
	Graduate degree	10	6.49	0	0.00	10	4.10
<b>TOTAL</b>		<b>154</b>	<b>100.00</b>	<b>90</b>	<b>100.00</b>	<b>244</b>	<b>100.00</b>

The rank order of use of strategic thinking skills by CPA trainees is systems thinking (3.91), reflecting (3.88), and reframing (3.79). The rank ordering stays the same for CPAs, but systems thinking and reflecting skills have almost same mean scores (3.77 and 3.76, respectively).

Table 3. Test between position and strategic thinking skills

		Reframing	Reflecting	Systems Thinking
SAMPLE	MEAN	3.71	3.81	3.82
	N	244	244	244
	SD	0.50	0.46	0.48
CPA TRAINEE	MEAN	3.79	3.88	3.91
	N	90	90	90
	SD	0.53	0.45	0.47
CPA	MEAN	3.66	3.76	3.77
	N	154	154	154
	SD	0.48	0.46	0.49
t value		1.9	1.991	2.187
p value		0.058	0.047*	0.029*

The use of strategic thinking skills between CPA trainees and CPAs was investigated by comparing the mean scores. CPA trainees are found to have higher usage of all three strategic thinking skills compared to CPAs. Even though the rank ordering does not change for CPA trainees and CPAs, mean scores are statistically higher for CPA trainees. The usage of systems thinking skills has 3.91 mean score for CPA trainees while it is 3.77 for CPAs, a statistically ( $t=2.187$  and  $p=0.029$ ) higher score for CPA trainees. The usage of reflecting skills is also statistically ( $t=1.991$  and  $p=0.047$ ) higher for CPA trainees (3.88) than CPAs (3.76). Even though the usage of reframing skills is also higher for CPA trainees (3.79) than CPAs (3.66), the results are not statistically significant ( $t=1.900$  and  $p=0.058$ ) at the 5% significance level. Testing hypothesis 1, which stated that the usage of strategic thinking skills does not differ by position, we have rejected zero hypothesis and accepted the alternative hypothesis, meaning work position affects the usage of strategic thinking skills.

Table 4. Comparison of means by gender, age, work experience, and education.

		SAMPLE			CPA TRAINEE			CPA		
		Refr.	Refl.	Sys. Th.	Refr.	Refl.	Sys. Th.	Refr.	Refl.	Sys. Th.
GENDER	FEMALE	3.73	3.83	3.83	3.77	3.90	3.90	3.69	3.77	3.76
	MALE	3.70	3.80	3.81	3.80	3.87	3.91	3.66	3.76	3.77
AGE	20-25	3.79	3.79	3.82	3.79	3.80	3.81	3.80	3.65	4.00
	26-35	3.71	3.83	3.83	3.79	3.90	3.93	3.59	3.73	3.69
	36-45	3.69	3.74	3.80	3.77	3.86	3.90	3.69	3.73	3.80
	46-55	3.64	3.84	3.82	3.80	4.29	4.00	3.64	3.83	3.82
	>= 56	3.88	3.90	3.76	0.00	0.00	0.00	3.88	3.90	3.76
EXPERIENCE	1-5	3.72	3.76	3.78	3.76	3.81	3.86	3.63	3.64	3.62
	6-10	3.65	3.87	3.82	3.66	3.90	3.87	3.64	3.83	3.77
	11-15	3.71	3.73	3.80	4.05	3.95	4.07	3.62	3.67	3.72
	16-20	3.68	3.86	3.88	4.06	4.12	4.07	3.56	3.78	3.83
	21-25	3.81	3.90	3.89	3.80	4.29	4.00	3.81	3.89	3.88
	>= 26	3.35	3.81	3.57	0.00	0.00	0.00	3.35	3.81	3.57
EDUCATION	1	3.62	3.69	3.72	3.48	3.41	3.45	3.66	3.77	3.79
	2	3.84	3.90	3.89	4.03	3.88	3.84	3.73	3.92	3.92
	3	3.70	3.81	3.81	3.80	3.91	3.94	3.63	3.73	3.73
	4	3.95	4.01	4.04	0.00	0.00	0.00	3.95	4.01	4.04
	5	4.10	3.94	4.06	0.00	0.00	0.00	4.10	3.94	4.06

Hypothesis 2 suggested that the usage of strategic thinking skills does not differ by gender, age, work experience, and education level. The analysis has been done for each subsample and between two



subsamples. We used t-test and ANOVA to analyze the differences between mean scores. Table 4 presents the mean scores of the usage of three strategic thinking skills with respect to each contextual variable, namely gender, age, work experience, and education. After testing the stated hypothesis, we have found no significant relationship between the usage of strategic thinking skills with age, work experience, education level, and gender.

We have looked at two subsamples for gender, age groups, work experience levels, or education levels. Participants in both subsamples have mostly bachelor's degrees (81 cases in CPA trainee subsample and 118 cases in CPA subsample, 199 cases out of total 244). Thus, we have compared CPA trainees and CPAs who have bachelor's degrees whether there is a significant difference of usage of strategic thinking skills. Results show that CPA trainees with bachelor's degrees use strategic thinking skills more than CPAs with bachelor's degrees. As Table 5 indicates, the usage of systems thinking skills has 3.94 mean score for CPA trainees while it is 3.71 for CPAs, a statistically ( $t=3.043$  and  $p=0.002$ ) higher score for CPA trainees. The usage of reflecting skills is also statistically ( $t=2.813$  and  $p=0.005$ ) higher for CPA trainees (3.91) than CPAs (3.73). While the usage of reframing skills was not significantly different in general comparison, the difference between mean scores (3.80 for college graduate CPA trainees and 3.63 for college graduate CPAs) is significant ( $t=2.297$  and  $p=0.022$ ).

Table 5. Test between position and strategic thinking skills of CPA trainees and CPAs with bachelor's degrees

		Reframing	Reflecting	Systems Thinking
CPA TRAINEE (N=81)	MEAN	3.80	3.91	3.94
	SD	0.52	0.39	0.42
CPA (N=118)	MEAN	3.63	3.73	3.71
	SD	0.48	0.47	0.50
t value		2.297	2.813	3.043
p value		0.022*	0.005**	0.002**

#### 4. Conclusion

Accounting environment faces great changes in Turkey during the adoption process of IFRS, ISA, and the new Commercial Code. To respond adequately to these changes, the accounting profession should have and use strategic thinking skills. In this study, we have measured the usage level of strategic thinking skills (reframing, reflecting, and systems thinking) of CPAs and CPA trainees and tested the effects of several variables on the usage level of those skills.

According to our results, position is positively related with systems thinking and reflecting while it does not produce any significant relationship with reframing. CPA trainees in general use systems thinking and reflecting skills more than CPAs. However, gender, age, work experience, and education variables do not have any significant effects on strategic thinking skills. Moreover, we found that CPA trainees with bachelor's degrees use strategic thinking skills highly than CPAs with bachelor's degrees.

Since we have tested the effects of several variables, namely gender, age, work experience, and education level, and found no statistically significant differences, the difference between the usages of strategic thinking skills for college graduates indicates there are other variables explaining the difference. We consider that this difference may be caused by the evolution in educational programs and curriculums. CPA trainees are generally younger and recently have had their bachelor's degrees. They had courses planned and implemented in accordance with rapidly changing environment. Researchers and academicians have been discussing the need for change in educational programs, specifically in the accounting education literature for many years (Bui and Porter, 2010). In Turkey, accounting education at

the undergraduate level is basically given in business administration programs. In recent years, it can be observed that business administration programs have been changed in most universities to prepare graduates for changing business environment. Program curriculums are aimed to give graduates basic skills, like creative and critical thinking, analyzing, systems thinking, problem solving, team working, communication skills, technological skills, interpersonal skills, etc. Those skills are basic components of strategic thinking skills, which are considered crucial for the individual and organizational success.

Based on our findings, it can be said that the higher usages of strategic thinking skills of CPA trainees are basically because of their education, aimed for improving specified skills. Continuous improvement of accounting education will help new graduates to be successful in their profession. Additionally, CPA trainees and CPAs should have life-long training in order to improve strategic thinking skills and to adopt to the changes in accounting standards. There should be some level of training programs especially designed by the profession bodies (specifically Public Oversight Accounting and Auditing Standards Authority and the Union of Chambers of Certified Public Accountants and Sworn-in Certified Public Accountants of Turkey) that play key roles in accountants' life-long training.

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